Cascade Road/Sugar Pine Road

Cascade Road and Sugar Pine Road are both private roads providing access to the Cascade Properties residential area downslope of the highway. Cascade Road is a loop road that intersects the highway in two locations. The southern junction of Cascade Road/SR-89 is north of Spring Creek, and the northern junction is south of Cascade Creek. Spring Creek Road extends off Cascade Road and intersects SR-89 just south of the northern Cascade Road junction. Both roads were paved in 2002.

Eagle Point Campground

The access road to Eagle Point campground is a paved State Parks road, open from approximately mid-June through Labor Day. This road extends north off SR-89 just east of the double switchback area. Currently use of this road is limited only to those staying at the campground; day use parking is not permitted.

Inspiration Point Parking Lot

The Inspiration Point parking lot is located on the north side of SR-89, overlooking the southern end of Emerald Bay. This lot provides 21 parking spaces, and is open from about Memorial Day through Labor Day.

Bayview Campground and Trailhead

The road to the Bayview campground and trailhead extends south off SR-89, directly across from the Inspiration Point parking lot. Unpaved areas adjacent to this road junction are used as overflow parking for the Inspiration Point area, and provide about 25 informal parking spaces.

Eagle Falls Trailhead

The road to the Eagle Falls trailhead extends west of SR-89 just north of the Eagle Falls bridge. This road leads to a paid parking area adjacent to the Eagle Falls trailhead, which provides access into Desolation Wilderness. North of the trailhead road, on the southbound side of SR-89, is an informal paved parking area, used mostly by visitors to the lower Eagle Falls area, which provides about 28 spaces.

Vikingsholm Parking Lot

The Vikingsholm parking area (Harvey West Lot) is located on the east side of SR-89 just north of Eagle Falls. This is the primary parking area for visitors hiking down to the Vikingsholm mansion. This lot provides 64 formal marked parking spaces, and about 11 informal spaces.

USFS Summer Home Tract (West Side)

An unpaved road on the west side of SR-89 at the top of the viaduct provides access to a group of summer homes on USFS land upslope of the highway.

USFS Summer Home Tract (East Side)

An unpaved, gated road on the east side of SR-89, north of the top of the viaduct, provides access to a group of summer homes on USFS land downslope of the highway.

Emerald Bay State Park Service Road
A paved, gated service road on the east side of SR-89 near the northern boundary of Emerald Bay State Park is used for Park vehicle access. This roadway drops steeply down to the Boat Campground, then continues to Vikingsholm where it connects to the unpaved road leading up to the Vikingsholm parking area.

D.L Bliss State Park Main Entrance
The public entrance to D.L. Bliss State Park is located on the east side of SR-89, and is also known as Lester Beach Road. This paved road goes past the entrance station and visitor center, winds down through the park campgrounds, and terminates at the Lester Beach camping area near Rubicon Point.

D.L. Bliss State Park Service Road
A State Parks service road for D.L. Bliss State Park is located just before the northern Park boundary. This gated, paved road extends east off SR-89, and intersects the main park entrance road near an area of Park staff housing.

Paradise Flat Private Roads
Four parallel private roads in the Paradise Flat area – 1 Ring, 2 Ring, 3 Ring, and 4 Ring – provide access to residences in the south part of Rubicon Bay. These roads are identified by the white bands around the trees at their junctions with the highway. These roads are paved at their junctions with SR-89, but generally unpaved elsewhere.

Rubicon Bay Roads, East Side
Residential streets within the Rubicon Bay community that intersect the east side of SR-89 include Rubicon Drive, View Circle, Sierra Drive, Amanda Lane, and Victoria Drive. These roads provide access to the residential homes located downslope of the highway along Rubicon Bay.

Rubicon Bay Roads, West Side
Residential streets within the Rubicon Bay community that intersect the west side of SR-89 include Scenic Drive, Glen Drive, Mountain Drive, and Silvertip Drive. These roads provide access to residential homes located upslope of the highway.

Meeks Bay Roads
The Meeks Bay residential community extends north from the Rubicon Bay residential area. On the east side of the roadway, most homes are located along Meeks Bay Avenue, which generally parallels SR-89 just downslope of the highway (and at its southern end connects to Victoria Drive within Rubicon Bay). On the west side of the highway, access from SR-89 to a network of residential streets is provided via Valley View Drive.

Meeks Bay Campground
The USFS Meeks Bay campground entrance road is located on the east side of SR-89, just south of Meeks Creek.

Meeks Bay Resort and Marina
The entrance road to Meeks Bay Resort and Marina is located on the north side of Meeks Creek. This roadway provides access to the Meeks Bay RV park, cabins, general store, and boat launch/marina.

# NATURAL RESOURCES

## WATERWAYS

The SR-89 Cascade to Rubicon Bay corridor crosses several waterways. Each crossing of a major waterway (those shown as blueline streams on the USGS topographic map) is discussed below.

Tallac Creek
Tallac Creek crosses the roadway just after it turns north after Spring Creek Road. After crossing beneath SR-89, Tallac Creek extends through a marsh area before entering Lake Tahoe at Baldwin Beach.

Cascade Creek
Cascade Creek drains from Cascade Lake into Lake Tahoe just north of the Cascade Properties residential area. Cascade Creek crosses beneath SR-89 at a bridge just east of the first switchback.

Eagle Creek
Eagle Creek drains from Eagle Lake into the western end of Emerald Bay near Vikingsholm. This creek crosses beneath SR-89 at a stone bridge and drops to the Lake in a dramatic waterfall, Eagle Falls.

Vikingsholm Area Drainages
Just north of the Vikingsholm parking area, a series of unnamed drainages flow off the steep western slopes and drop down into Emerald Bay. These drainages pass beneath the SR-89 viaduct.

Rubicon Creek
Rubicon Creek and several unnamed tributaries flow beneath SR-89 and join near the northern boundary of D.L. Bliss State Park. The creek enters Lake Tahoe just north of Lester Beach.

Paradise Flat Drainage
An unnamed blueline stream crosses beneath SR-89 just south of 3 Ring Road and enters Lake Tahoe at Paradise Flat.

Rubicon Bay Drainages
Two blueline streams extend through the Rubicon Bay community. The southern drainage is identified as Lonely Gulch, and extends from a reservoir upslope of SR-89, crosses the highway south of Glen Drive, and enters Lake Tahoe east of Winston Circle. The second drainage is unnamed and crosses beneath SR-89 at the eastward curve north of Sierra Drive, then enters Lake Tahoe near Beach Lane.

Meeks Creek

Meeks Creek passes beneath SR-89 between the USFS campground and the Resort and Marina facilities. A boat marina and a narrow inlet channel have been developed at the mouth of the creek, operated by the Washoe Tribe under permit from the USFS.

# TYPICAL ROADWAY CORRIDOR CHARACTERISTICS

For purposes of the Bikeway Study, the SR-89 roadway corridor has been broken down into four segments, with each segment defined by relatively distinct physical and environmental characteristics. **Figure 2-3, Corridor Segment Key**, illustrates the limits of each study segment. By separating the study corridor into several independent segments, the unique opportunities and constraints of each can be isolated and addressed. The roadway is described from south to north, beginning at Spring Creek Road (milepost 13.24) and ending at Meeks Bay. Although the road curves westward around Emerald Bay, travel lanes are referred to as either northbound or southbound to reflect the overall highway alignment.

The four study area segments are:

- Segment 1: Spring Creek Road to Cascade Creek
- Segment 2: Cascade Creek to D.L. Bliss State Park Boundary
- Segment 3: D.L. Bliss State Park Boundary to Paradise Flat
- Segment 4: Paradise Flat to Meeks Bay

It should be noted that this section generally describes conditions along only the highway corridor. Conditions in areas away from the roadway, such as the natural habitat areas within Emerald Bay State Park, are described in detail in chapter 3 as part of the evaluation of conceptual alternatives.

## SEGMENT 1: SPRING CREEK ROAD TO CASCADE CREEK

Segment 1, Spring Creek Road to Cascade Creek, reflects a transition from the flat, wooded area along the south shore of the Lake up toward the steep exposed slopes of the moraine between Emerald Bay and Cascade Lake. This segment of highway crosses two waterways, Spring Creek and Cascade Creek, and passes by the Cascade Properties residential neighborhood. The roadway begins at an elevation of approximately 6,300 feet.

Throughout Segment 1, the roadway is approximately 24 to 25 feet in width. Travel lanes are 11.5 feet in width.

Near Spring Creek, a 2-foot shoulder is present on the northbound side of the roadway, with virtually no shoulder (6 inches paved outside the edge line) on the southbound side. North of Spring Creek, the road begins gently rising. The roadway is on a slight cross-slope, with the southbound lane abutting a small dirt berm.

Cascade Road (southern terminus) extends off of SR-89 in a shallow "Y", with Cascade Road dropping down toward the Lake, and SR-89 rising climbing up. At Cascade Road, the roadway is at an elevation of approximately 6,375 feet. At this point, the roadway is on a steep cross-slope, with a steep downslope from the northbound lane. The northbound lane has approximately 6 inches of pavement outside the edge line, followed by 2 to 4 feet of gravel before a steep drop off. The southbound lane in this area has approximately 1 foot of paved shoulder, abutting a curb that is present against the upslope.

Nearing the top of the uphill straightaway above Cascade Road, the roadway curves slightly west, continues up, then makes a sharp westerly curve at the top of the hill. At each of the two curves, the northbound lane widens into a pullout, and guardrails are present along the northbound side. Due to the steep easterly drop-off, expansive views of the Lake are available from this section, and vehicles were observed parking in the pullouts to view the lake and take pictures. Throughout this area, a concrete retaining wall is present along the southbound lane, which abuts the slope. At the first pullout, the roadway is 38 feet at its widest point, with 12 foot travel lanes, a 10 foot northbound pullout, and a 4 foot southbound shoulder (between the edge line and retaining wall). At the second pullout, the road is 50 feet at its widest point, with a 20 foot northbound pullout, a 14 foot northbound travel lane, a 12 foot southbound travel lane, and a 4 foot southbound shoulder. The roadway reaches an elevation of about 6,440 feet near the second pullout.

From the second pullout to Cascade Creek, the roadway grade flattens out. Between the guardrail and Sugar Pine Road, there is 4 to 5 feet of shoulder on both sides of the road. After Sugar Pine Road, the roadway narrows again, providing only 6 to 12 inches of pavement outside the edge line in both directions.

The roadway widens slightly at the Cascade Creek crossing, with 11.5 foot travel lanes and 5 foot shoulders on both sides. A guardrail is present on both sides of this bridge.

## SEGMENT 2: CASCADE CREEK TO D.L. BLISS STATE PARK BOUNDARY

Segment 2, Cascade Creek to D.L. Bliss State Park Boundary, is characterized by steep uphill and downhill segments around Emerald Bay. Heading north from Cascade Creek the highway begins a steep uphill grade, with exposed slopes, switchbacks and a section of roadway along the "razorback" ridge of the moraine. North of Inspiration Point, the highway is characterized by a long downhill section high above the western end of Emerald Bay, with expansive views over the water to the northeast. The roadway in this area drops sharply down toward the Lake, and long sections of guardrail exist.

Topography in this section, particularly on the switchbacks, is such that even skilled cyclists may find it challenging to ride. Uphill cyclists will be climbing slowly, and the steep inside corners of the switchbacks may require brief out-of-the-saddle efforts. Downhill cyclists will be traveling fast and frequently braking in order to maintain control down the steep switchbacks.

Following the Cascade Creek crossing, the road leaves the forest and begins to head up along the base of the Cascade Lake moraine. The first switchback is at Tahoe Mile 51 sign. The roadway is 44

feet wide at the apex of the curve. Despite the width, shoulders are not well defined on either side of the road, and vehicles were observed cutting close to the inside of the switchback.

After the switchback, the road begins a long uphill straightaway up the side of the moraine. The road is constructed into a steep cross-slope, with a retaining wall present along the southbound lane, and steep drop-off from the northbound lane. The roadway is approximately 25 feet wide, from the edge of the retaining wall to the edge of the drop-off. This includes a 12 foot northbound lane, and 11 foot southbound lane, and about 1 foot outside the edge line on both sides.

The second switchback is approximately 60 feet at the apex, with a 23 foot southbound lane, a 20 foot northbound lane, and a 17 foot pullout. This switchback is located at an elevation of about 6,600 feet.

North of the second switchback, the road flattens out briefly, passing the entrance road to Eagle Point campground, then rises steeply up toward the double switchback. As with the first switchbacks, climbing up the double switchback will likely have cyclists standing out of the saddle to power up the steep corners. Downhill cyclists will be braking frequently and will need to watch for loose sand and gravel in the tight corners. Heading northbound from the double switchback, a final steep uphill pitch brings a cyclist to the top of the "razorback" ridge. From the two 10 foot roadway lanes, the road drops off steeply on both sides, with views of Emerald Bay to the north and of Cascade Lake to the south. Due to lack of shoulder and steep drop-off, cyclists will tend to ride well away from the edge of the road in this segment, and it is necessary for vehicles to cross the centerline when passing.

At Inspiration Point, the roadway flattens out and widens. Traffic is heavy and there are frequent turning movements associated with parking areas on both sides of the roadway. North of Inspiration Point, the roadway begins a sustained descent toward Vikingsholm. Traffic is heavy in the vicinity of Eagle Falls and Vikingsholm, and the potential for bicyclist conflicts with vehicles high is due to the number of cars pulling into informal pull-outs on the Lake side of the road.

Downhill grades are sufficient in this area, and the road straight enough, that skilled downhill bicyclists will be coasting at close to the speed of traffic and will tend to venture out into the lane. During peak visitor hours, vehicles can be observed parking almost any available shoulder area in order to take pictures or observe the panoramic view of Emerald Bay. This increases the likelihood that downhill cyclists will take the lane in order to stay clear of vehicles parked in the shoulder. Uphill cyclists will generally be climbing much slower than the speed of traffic, and frequent rocks and gravel along the uphill shoulder may require them to swerve out into the lane momentarily.

Heading north from Vikingsholm, cyclists start immediately climbing the viaduct section of the highway. Shoulders in this area are approximately 2 to 4 feet wide, although the fact that the shoulder abuts a solid concrete wall on either side of the roadway limits their effective width for use by cyclists.

In the uphill direction, cyclists will tend to move as far to the right as possible, but due to the guardrail and sand/gravel in the shoulder will likely be on or inside the edge line. Skilled cyclists

descending the viaduct section will tend to take the lane, as they will be traveling at the speed of traffic.

## SEGMENT 3: D.L. BLISS STATE PARK BOUNDARY TO PARADISE FLAT

From the top of the viaduct, the roadway enters a stretch of rolling hills as it exits Emerald Bay State Park and enters the D.L. Bliss State Park boundary. The roadway is within the forest at this point, and views of the Lake are generally not available. Two roadways extend off the east side of the highway. The first provides access to a group of summer homes on USFS land on the east side of the highway. The second is the Emerald Bay State Park service road, a paved road that drops steeply down the slope to the Boat Campground, then continues toward Vikingsholm, connecting to the unpaved road that leads up to the Vikingsholm parking lot.

Just after the Emerald Bay S.P. service road, SR-89 enters the boundary of D.L. Bliss State Park. Public access to D.L. Bliss State Park is provided at the main park entrance on the east side of the highway. This road, known as Lester Beach Road, drops steeply down through the campsites of the Park, and out toward the beach campground at Rubicon Point.

The D.L. Bliss State Park service road is located near the northern boundary of the Park. This paved road extends east from the highway and connects to the main Park road near a staff housing area. This roadway is gated and signed for "Official Vehicles Only," but the gate was observed to be frequently open.

From the northern boundary of D.L. Bliss State Park, the roadway drops down to the Paradise Flat area, an expanse of forest and meadow in the southern part of Rubicon Bay. The highway is up to one-half mile inland at this point, and the topography is relatively flat and at one of the lowest points along the alignment (6,260 feet). Paradise Flat is the location of four parallel private roads that provide access to residences along the bay. These roads – 1 Ring, 2 Ring, 3 Ring, and 4 Ring Roads – are identified by white bands around trees near their entrances.

## SEGMENT 4: PARADISE FLAT TO MEEKS BAY

From Paradise Flat, the highway begins to climb again toward the community of Rubicon Bay. In this segment the highway curves westward around the Rubicon Bay residential area. The Rubicon Bay residential area is characterized by a network of residential streets downslope of the highway, with several access points from the highway. While these streets may provide an opportunity for cyclists to detour off the main highway, the appeal of such a route may be limited by the curving nature of the roadways, the numerous intersections, and the frequent topography changes as the roads roll along the side of the hill. Along the northern portion of Rubicon Bay, a long residential street closely follows the alignment of SR-89, exiting to the highway at the northern tip of the Bay.

In the central part of Rubicon Bay, the roadway curves westward, around the residential area, before curving back eastward. Along the northern part of Rubicon Bay, the roadway is relatively straight. In this area, a single parallel residential roadway is located downslope of the highway. This roadway could provide some opportunities for cyclists to detour off the highway, as it is straight and does not involve a major elevation change to get to and from the highway.

The Meeks Bay residential community is concentrated around the point just south of Meeks Bay. The roadway curves west in this area, then descends down to the Meeks Bay campground area. The Meeks Bay campground is owned by the USFS. Adjacent to the campground is the Meeks Bay Resort and Marina, operated by the Washoe Tribe. This is the only sheltered marina along the study corridor.

## OPPORTUNITIES AND CONSTRAINTS

Based on the information compiled during the existing conditions analysis, a set of Opportunities and Constraints maps were developed for the study area illustrating key characteristics of the corridor that may affect the development of a bikeway. These maps are shown in **Figures 2-4, 2-5, 2-6, and 2-7**.